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U. S. Department of Agriculture, Forest Service

FOREST PRODUCTS LABORATORY

In cooperation with the University of Wisconsin

MADISON, WISCONSIN

List of publications relating to
THE STRUCTURE AND IDENTIFICATION OF WOOD

May, 1924

LISTS OF PUBLICATIONS OF THE FOREST PRODUCTS LABORATORY

Structure and Identification of Wood

This list, which begins on page 3, includes publications that give the results of research by the Forest Products Laboratory on the identification of wood, effect on wood of turpentine and other extrinsic agencies, and structure of wood in relation to its properties. Included also are various other government publications and some commercial books on these subjects.

Other lists of publications dealing with the investigative projects of the Forest Products Laboratory are obtainable upon request. They are as follows:

Boxing and Crating

Strength and serviceability of shipping containers, methods of packing.

Derived Products

Chemical properties and uses of wood and chemical wood products, such as turpentine, alcohol, and acetic acid.

Glue, Plywood, and Coatings

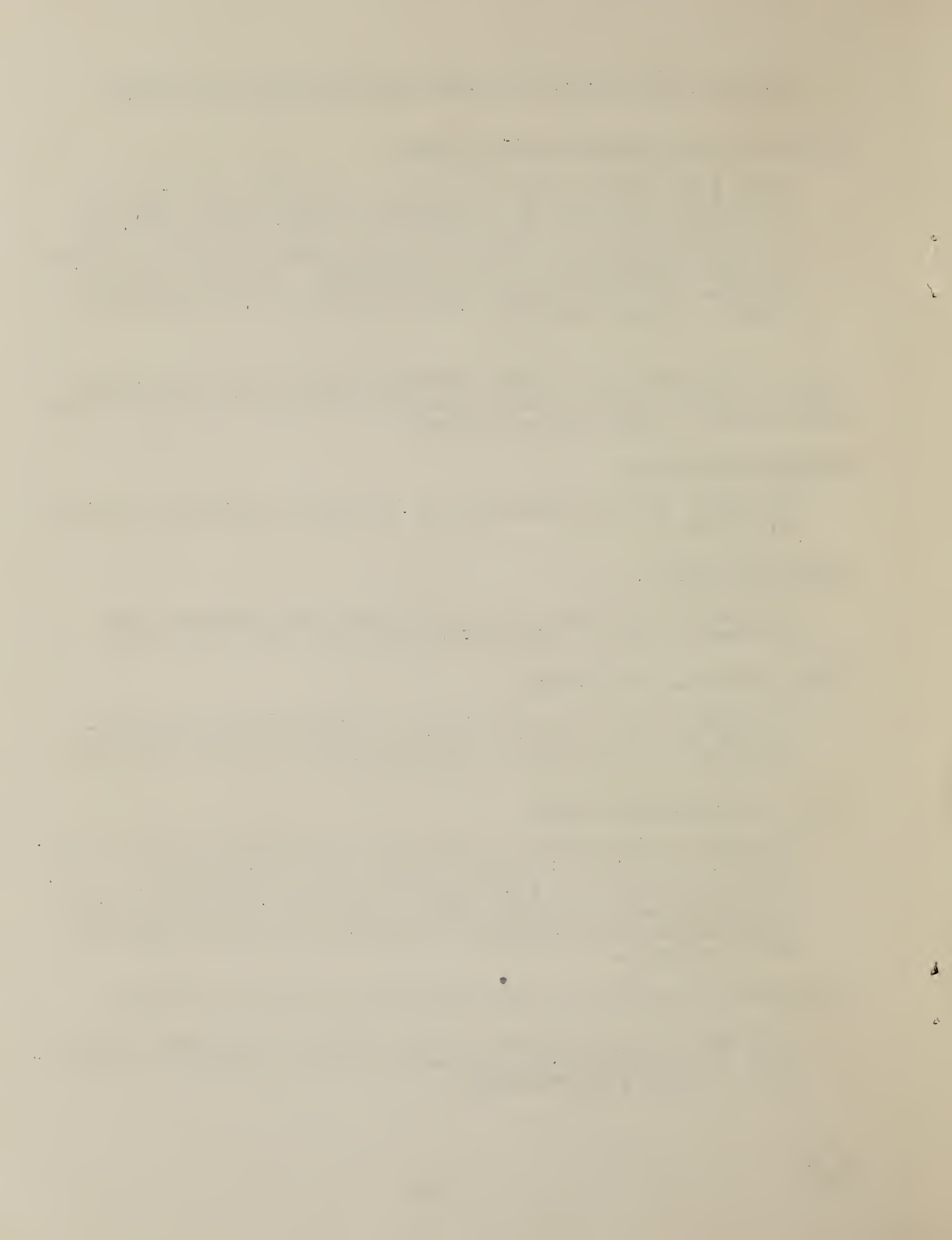
Development of waterproof glues. Preparation and application of various glues. Plywood manufacturing problems. Coatings and methods of application.

Industrial Investigations

Methods and practices in the lumber producing and wood consuming industries; standard lumber grades, sizes, and nomenclature; production and use of small dimension stock; specifications for small wooden products; uses for little-used species and commercial woods; and low grade and wood waste surveys.

Pathology (In cooperation with the Bureau of Plant Industry)

Fungous diseases of trees; decay, molds, and stains in timber, in buildings, and in wood products; antiseptic properties of wood preservatives.



Preservation

Preservative materials and methods of application. Durability and service records of treated and untreated wood in various forms.

Pulp and Paper

Suitability of various woods for pulp and paper; fundamental principles underlying the pulping and bleaching processes; methods of technical control of these processes; relation of the chemical and physical properties of pulps and the relation of these properties to the paper making qualities of the pulps; waste in the industry, e.g., decay in wood and pulp, utilization of bark, white water losses, etc.

Timber Mechanics

Strength of timber and factors affecting strength; design of wooden articles or parts where strength or resistance to external forces is of importance.

Timber Physics

Experimental and applied kiln drying, physical properties, air drying, steam bending.

The Forest Products Laboratory reserves the right to furnish only those publications, available for distribution, which in its judgment will furnish the information requested. Blanket requests or requests for a large number of copies of any individual article will not be filled except in unusual cases.

LIST OF PUBLICATIONS ON THE STRUCTURE AND
IDENTIFICATION OF WOOD

TECHNICAL NOTES

(Free on application to the Forest Products Laboratory)

<u>No.</u>	<u>Title</u>
D-11	How to Distinguish Black Ash From Commercial White Ash Lumber.
F-15	Effect of Time of Cutting Timber on Its Durability.
F-28	How to Retain the Bark on Logs Used in Rustic Construction.
95	The Length of Wood Fibers.
101	Comparative Value of Timber Cut From Live and Dead Trees.
103	How to Distinguish Mahogany From Walnut and Red Gum.
116	How to Tell Birch, Beech, and Maple Apart.
125	Identification of Oak Woods.
141	A Visual Method of Distinguishing Longleaf from Shortleaf and Loblolly Pines.
158	Lumber Value of Pine Trees Not Affected by Turpentine.
153	"Virgin Growth" and "Second Growth".
162	Distinguishing Characteristics of Mahogany.
169	Why Narrow Chipping Increases the Yield of Resin From Pines.
187	What is Meant by "Hardwoods" and "Softwoods"?
189	Difference Between Heartwood and Sapwood.
196	Identification of Pulpwoods.
198	The Identification of Douglas Fir Wood.

MIMEOGRAPHED REPORTS AND REPRINTS

(Free on application to the Forest Products Laboratory)

(Please give both title and number when ordering)

No.

Title

			American Pulpwoods (includes compilation of fiber lengths)
			American Storax Production: Results of Different Methods of Tapping Red Gum Trees
L-1	363	-	Effect of Wood Structure on Glue Penetration
			Factors Affecting the Strength of Wooden Members
			Five Molds and Their Penetration into Wood
			Grain of Wood with Special Reference to the Direction of the Fibers
L-4	595	-	Greenheart
L-2	49	-	Key for the Identification of Native Woods Used for Chairs and Other Furniture
L-2	258	-	Key for the Identification of Woods Used for Box and Crate Construction
			Lumber Used in Motor Vehicle Manufacture
L-6	509	-	Relation of Moisture Content and Drying Rate of Wood to Humidity of Atmosphere
LO-10	768	-	Sap or Moisture Content of Wood
L-2	736	-	Shrinking and Swelling of Wood
LO-10	716	-	Structure of Wood
			The Goose and the Golden Eggs, or Naval Stores Production a la Aesop (illust.)

BULLETINS AND CIRCULARS

These publications may be purchased, for the nominal prices indicated, from the Superintendent of Documents, Government Printing Office, Washington, D.C. Send money order, drafts or cash in United States money at sender's risk; stamps or personal checks are not accepted.

	<u>Date of Issue</u>
Standard Grading Specifications for Yard Lumber. U.S.D.A. Circular 296 - 20 cents	1923
The Identification of True Mahogany and Certain So-Called Mahoganies. U.S.D.A. Bulletin 1050 - 10 cents.	1922
Oleoresin Production: A Microscopic Study of the Effects Produced on the Woody Tissues of Southern Pines by Different Methods of Turpen- tining. U.S.D.A. Bulletin 1064 - 20 cents.	1922
Utilization of Black Walnut. (Contains 1 page and 3 plates on structure) U.S.D.A. Bulletin 909 - 30 cents.	1921
Utilization of Sycamore. (Two pages and 1 plate on structure) U.S.D.A. Bulletin 884 - 5 cents.	1920
The "Grain" of Wood, with Special Reference to the Direction of the Fibers. Part of "Inspection Manual" Bureau of Aircraft Production.	1918
Relative Resistance of Various Hardwoods to Injec- tion with Creosote. (About 16 pages and 4 plates on micro-structure studies) U.S.D.A. Bulletin 606 - 15 cents.	1918
Utilization of Elms. (One page, 3 plates on struc- ture) U.S.D.A. Bulletin 683 - 10 cents.	1918
Information for Inspectors of Airplane Woods. Bul- letin of the Bureau of Aircraft Production.	1918
Materials for the Household. Bureau of Standards Circular 70. (Contains a chapter on wood) - 25 cents.	1917

- Guidebook for the Identification of Woods Used for Ties and Timbers. (Also contains common and scientific names and maps showing distribution of 87 common woods) A miscellaneous forestry publication - 30 cents. 1917
- True Mahogany. U.S.D.A. Bulletin 474 - 5 cents. 1917
- Utilization of Ash. (Three pages and 3 plates on structure) U.S.D.A. Bulletin 523 - 15 cents. 1917
- Ground Wood Pulp. (Microscopic studies of fibers including 2 pages and 11 plates) U.S.D.A. Bulletin 343. 1916
- Effects of Varying Certain Cooking Conditions in Producing Soda Pulp from Aspen. (Results of microscopic studies of fibers included in 3 pages and 8 plates) U.S.D.A. Bulletin 80 - 15 cents. 1914
- Relative Resistance of Various Conifers to Injection with Creosote. (Twenty pages and 3 plates on the effect of micro-structure) U.S.D.A. Bulletin 101 - 15 cents. 1914
- Norway Pine in the Lake States. (Includes 2 pages with key and 3 plates on structure) U.S.D.A. Bulletin 139 - 10 cents. 1914
- Circassian Walnut. F.S. Circular 212 - 5 cents. 1913
- Pith-Ray Flecks in Wood. F.S. Circular 215 - 5 cents. 1913
- Mechanical Properties of Western Hemlock. (One page, 3 plates on structure) F.S. Bulletin 115 - 15 cents. 1913
- Mechanical Properties of Western Larch. (One page, 3 plates on structure) F.S. Bulletin 122 - 10 cents. 1913
- Experiments in Preservative Treatment of Red Oak and Hard Maple Crossties. (Includes some microscopic data) F.S. Bulletin 126 - 20 cents. 1913

	<u>Date of Issue</u>
Grinding Spruce for Mechanical Pulp. (Results of microscopic fiber studies given in 2 plates and discussion) F.S. Bulletin 127 - 15 cents.	1913
Quebracho Wood and Its Substitutes. F.S. Circular 202 - 5 cents.	1912
Experiments with Jack Pine and Hemlock for Mechanical Pulp. (Results of microscopic studies of fibers given in about 4 pages and 12 plates) F.S. Bulletin (No number - No price).	1912
Fustic Wood, Its Substitutes and Adulterants. F.S. Circular 184 - 5 cents.	1911
Colombian Mahogany. F.S. Circular 185 - 5 cents.	1911
California Tanbark Oak. (Two pages and 2 plates on structure of wood and location of tannin) F.S. Bulletin 75 - 15 cents.	1911
Western Yellow Pine in Arizona and New Mexico. (About 7 pages and 5 figures on structure) F.S. Bulletin 101 - 15 cents.	1911
The Red Gum, with Discussion of Mechanical Properties of Red Gum Wood. (Section on Microscopic structure - 5 pages, 4 figures) F.S. Bulletin 58 - 15 cents.	1906
Check List of Forest Trees of the United States: Their Names and Ranges. Forestry Bulletin 17 - 15 cents.	1898
The Timber Pines of the Southern United States, with Discussion of Structure of Their Wood. Div. For. Bulletin 13 - 50 cents.	1897
Timber: An Elementary Discussion of the Characteristics and Properties of Wood. Forestry Bulletin 10 cents.	1895

ARTICLES IN TRADE AND TECHNICAL PRESS

Copies of these articles are not available for distribution at the Forest Products Laboratory, except certain ones which are included in the list of mimeographed reports and reprints. All of these references can be consulted in the original publications.

Title	Author	Where Published	Date
How the Microscopic Study of Pines Con- serves Forests	Gerry, Eloise	Savannah Weekly Naval Stores Re- view	Nov. 24, 1923
Five Molds and Their Penetration into Wood	Gerry, Eloise	Jour. Agricultural Research	Nov. 3, 1923
The Goose and the Golden Eggs, or Naval Stores Production a la Aesop (illust.)	Gerry, Eloise	Savannah Weekly Naval Stores Re- view Southern Lumber- man	Nov. 17, 1923. Aug. 25, 1923
Researches in Foreign Woods (Review of Trans- lation)	Gerry, Eloise	Journal of For- estry	Oct. 1923
Naval Stores of the South	Gerry, Eloise	Savannah Weekly Naval Stores Review	Sept. 29, 1923
Recent Observations on the Effects of Turpen- tining on the Structure of Second-Growth Slash and Longleaf Pines	Gerry, Eloise	Savannah Weekly Naval Stores Re- view	Aug. 4, 1923
What Makes Glue Stick? (illust.)	Gerry, Eloise & Truax, T.R.	Scientific Amer. Automotive Mfr.	Aug. 1923 Sept. 1923
What Makes Lumber Sell?	Koehler, Arthur	Southern Lumber- man-No. 1440, p. 48	May 5, 1923
Naval Stores, Treasures of the Living Pines	Gerry, Eloise	American Forestry	Feb. 1923
Recent Observations on the Effects of Turpen- tining on the Structure of Second-Growth Slash and Longleaf Pines	Gerry, Eloise	Journal of For- estry, Vol. 21, No. 3	March 1923

Title	Author	Where Published	Date
Effect of Wood Structure on Glue Penetration	Gerry, Eloise & Truax, T.R.	Furniture Manufacturer & Artisan	April, 1922
Photomicrography Applied in Forest Products Research	Gerry, Eloise & Diemer, M.E.	Photographic Journal of America	November 1922
Sermons in the Naval Stores Pines that Operators Should Hear and Also Heed	Gerry, Eloise	Weekly Naval Stores Review	Nov. 4, 1922
The Penetration of the Mycelium of Certain Molds Growing on Aspen, Oak, and Sitka Spruce Wood and Some Microchemical Means for Determining It (Abstract)	Gerry, Eloise	American Lumberman	Jan. 7, 1922
The Virtue of Narrow Chipping of Pines for Turpentine	Gerry, Eloise	Weekly Naval Stores Review	July 8, 1922
Lumber Used in Motor Vehicle Manufacture	Koehler, Arthur	Automotive Industries	May 26, 1921
American Storax Production: Results of Different Methods of Tapping Red Gum Trees	Gerry, Eloise	Journal of Forestry - p.15-25	January, 1921
Production of American Storax	Mahood, S.A. & Gerry, Eloise	Druggists' Circular	January, 1921
Production of Crude Gum By the Pine Tree	Gerry, Eloise	Naval Stores (Book compiled by Gamble)	May 1921
Pitch of the Ancients	Gerry, Eloise	Jour. of Forestry	April 19: p.438 1921
Wood Used in House Construction	Koehler, Arthur	Jour. of the Am. Institute of Architects - p. 189	May 1921
Handbook of Box and Crate Construction	Koehler, Arthur & Gerry, Eloise and others	National Assn. of Box Mfrs, Chicago	Oct. 5, 1921

Title	Author	Where Published	Date
Stains for Mycelium of Molds and Other Fungi	:Diemer, M.E. & :Gerry, Eloise	:Science 54: p.629: :	:Dec. 23, :1921
Shrinking and Swelling of Wood	:Koehler, Arthur	:Furniture Manufac: :turer & Artisan	:March :1920
Identification of Mahogany	:Koehler, Arthur	:Jour. of Forestry: :18: p. 154	:Feb. :1920
Microscopy of Pulpwoods	:Gerry, Eloise	:Paper 26	:April 21, :1920
Defects Found in Lumber	:Koehler, Arthur	:Boxes (Chicago :Mill & Lumber Co)	:August :1920
American Pulpwoods (in- cludes compilation of fiber lengths)	:Kress, Otto; :Wells, S.D.; :Edwardes, V.P.	:Paper Industry :	:August, :1919
Selecting Wood for Air- planes	:Koehler, Arthur	:Scientific Amer- :ican Supplement	:Sept. 6, :1919
Bordered Pits in Douglas Fir: A Study of the Position of the Torus in Mountain and Lowland: Specimens in Relation to Creosote Penetration:	:Griffin, :Gertrude J.	:Jour. of Forestry: :17: p. 813	:November :1919
Some War Work in Forest Products	:Gerry, Eloise	:Radcliffe College: :Quarterly, :Cambridge, Mass.	:1919
Native Woods as a Possi- ble Substitute for Box- wood	:Koehler, Arthur	:(Abstract) Hard- :wood Record :;(Same) Scientific :American	:Apr. 25, :1917 :March 8, :1919
Grain of Wood with Special Reference to the Direction of the Fibers	:Koehler, Arthur	:West Coast Lumber: :man :Aerial Age Weekly: :Scientific Amer- :ican Supplement	:July 15, :1918 :Aug. 12, :1918 :Sept. 7, :1918

Title	Author	Where Published	Date
A Plea for a Closer Discrimination in the Use of the Words "Grain" and "Texture" with Respect to Wood	Koehler, Arthur	Hardwood Record	Feb. 25, 1917
Proper Methods of Turpentineing; Increased Yield Obtained Without Serious Injury to the Tree	Gerry, Eloise	Scientific American Supplement 84, No. 2176, p. 168	Sept. 15, 1917
Distinguishing Characters of North American Sycamore Woods	Brush, W.D.	Botanical Gazette 64	Dec. 1917
The Structure of Wood and Some of Its Properties and Uses	Gerry, Eloise	Bulletin 1, Northern Hemlock and Hardwood Mfgs' Association	Jan. 1916
Wood Older Than the Hills	Koehler, Arthur	American Forestry 22	Feb. 1916
Fiber Measurement Studies: A Comparison of Tracheid Dimensions in Longleaf Pine and Douglas Fir with Data on Strength, Length, Mean Diameter, and Thickness of Wall of the Tracheids	Gerry, Eloise	Science 43, p. 360	Mar. 10, 1916
Fiber Measurement Studies: Length Variations; Where They Occur and Their Relation to the Strength and Uses of Wood	Gerry, Eloise	Science N.S. 41 p. 179	Jan. 29, 1915
Our National Forests	Koehler, Arthur	Wisconsin Arbor & Bird Day Manual	1915
A Visual Method of Distinguishing Longleaf Pine	Koehler, Arthur	American Lumberman Engineering Record	Sept. 11, 1915 Sept. 11, 1915

Title	Author	Where Published	Date
Tyloses: Their Occurrence and Practical Significance in Some American Woods	Gerry, Eloise	Jour. of Agricultural Research, I	Mar. 25, 1914
		p. 445-470 pl.	
		52-59	
An Improved Method of Infiltrating Wood with Celloidin	Koechler, Arthur	Proceedings of the Society of American Foresters, 9.	April, 1914
North American Walnut Woods	Sudworth, C.B. Mill, C.D.	Hardwood Record	Sept. 10, 1914
Density of Wood Substance and Porosity of Wood	Dunlap, F.	Jour. of Agricultural Research	Sept. 21, 1914
Microscopic Structure of Woods in Relation to Properties and Uses	Gerry, Eloise	Proceedings of Society of American Foresters, 8	July 1913
		p. 159-174, 4 pl.	
"Bars of Sanio" in Coniferales	Gerry, Eloise	Annals of Botany	Jan. 1910
		26, p. 119-123, 1 pl.	

SOME BOOKS COMMERCIALY PUBLISHED

- Handbook of the Trees of the Northern States and Canada;
East of the Rocky Mountains - by R. B. Hough, 1907 --
R. B. Hough, Lowville, New York. (Contains much valuable
information on trees and where they grow and a little
on wood.) \$6.00
- Identification of Economic Woods of the United States, In-
cluding a Discussion of Their Structural and Physical
Properties - by S. J. Record. Second Edition, 1919.
J. Wiley & Sons, New York. \$1.75
- Lumber and Its Uses - by R. S. Kellogg and F. H. Smith, 1924.
U.P.C. Book Co., Inc., New York. \$4.00
- Manual of the Trees of North America, Exclusive of Mexico -
by C. S. Sargent, Second Edition, 1922. Houghton, Mifflin & Co., Cambridge, Massachusetts. (Contains much
valuable information on trees and where they grow and a
little on wood.) \$12.50
- Properties and Uses of Wood - by Arthur Koehler, 1924.
McGraw-Hill Publishing Co., New York. \$3.50
- Timbers of Commerce and Their Identification - by Herbert
Stone, 1904. D. Van Nostrand & Co., 25 Park Place, New
York. (Describes principally foreign woods.) \$3.50
- Timbers of the World - by Alexander L. Howard, 1920.
London. The MacMillan Co., New York, N. Y. \$9.00
- Wood: A Manual of the Natural History and Industrial Appli-
cation of the Timber of Commerce - by G. S. Boulger.
1908, Longman Green & Co., 443 .. 4th Ave., New York
City. (Describes both native and foreign woods.) \$4.20
- Wood and Other Organic Structural Materials - by Charles H.
Snow, 1918. McGraw Hill Book Co., 239 West 39th Street,
New York. \$5.00

